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DISCUSSION

MORRELL VECKI, M.D. (450 Sutter Street, San Francisco).—Doctor Buckley has introduced a new etiologic factor, brucellosis, which has rarely been recognized and isolated in diseases of the genital tract in man. He has given an excellent résumé of the history and clinical manifestations of the disease.

In 1917, shortly after Alice Evans demonstrated that Bacillus abortus and Bacillus melitensis had similar cultural, morphologic and serologic characteristics, experimental work was begun at the Hooper Foundation in San Francisco by Meyer, Fleischner, and Shaw. It was soon demonstrated that Bacillus abortus was always present in certified milk produced in the San Francisco Bay region. Incidentally, the name "Brucella," honoring Bruce, who discovered the Malta fever organism, was proposed by Meyer and Shaw.

In 1920, while studying for my master's degree, it became my privilege to work with these investigators. Our particular problem at that time was to find out if Bacillus abortus could produce a disease similar in the monkey to that produced by Bacillus melitensis, or Malta fever germ, since it had been reported that, in the monkey, a disease was produced similar to that seen in man.

By injecting monkeys and feeding them with large doses of organisms, agglutinins were developed fairly rapidly. At postmortem examination it was possible to recover the organisms from the spleen, lymph nodes, and liver. We have no record of having recovered the organism, or having produced the disease in any part of the genital tract of these animals.

Recently, I came upon an article by Simpson, who had studied ninety cases of brucellosis in and about Dayton, Ohio. Evidence of orchitis, epididymitis, prostatitis, and seminal vesiculitis, was found in three of the patients, all being raw-milk consumers. In one case the organism was recovered from a draining sinus tract, which extended from the globus major through the scrotal wall.

In conclusion, I can state that Doctor Buckley's case report will set an example for us to be on the alert to investigate any obscure genital lesion for brucella infection.

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JAY J. CRANE, M.D. (1921 Wilshire Boulevard, Los Angeles).—A proved case of brucella infection of the testicle and epididymis in a human has not yet, so far as I know, ever been reported. I can see no reason why the infection should not involve these structures, because other tissues are not uncommonly involved.

Doctor Buckley's interesting case report comes closer to being a proved case than has as yet reached the literature. However, the history, physical findings and course of the infection, as described, are in no way pathognomonic of a brucella infection of these structures, and without a positive culture having been obtained from the testicle and epididymis, one cannot differentiate with certainty between a nonspecific infection and a brucella infection. I, therefore, do not consider Doctor Buckley's diagnosis as positive; yet it is certainly very suggestive.

Doctor Buckley has brought to our attention the great possibility that many of the so-called nonspecific epididymitis cases may be due to brucella, which is especially true in those patients who have recurrent attacks of epididymitis; and I believe this latter group should all have an agglutination test for brucellosis, in view of the fact that the disease is on the increase.

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DONALD A. CHARNOCK, M.D. (727 West Seventh Street, Los Angeles).—Brucellosis is fairly common in California, especially in the agrarian districts. In reviewing the disorder, attention is directed to the numerous complications. The disease is not rare in Southern California, but there is no record of urologic complications in our largest hospital.

The description of the physical findings and the clinical course is well brought out. It is an established fact that the agglutination test remains positive for a long period of time. This test must be carefully evaluated in making a diagnosis of brucellosis.

While there have been no cases of orchitis and epididymitis reported in the American literature within the past few years, four cases are recorded in the foreign literature. Three of these cases originated in Italy and one in France.[1]

Dr. Harold J. Harris of Westport, New York, calls attention to the complication and states that it may be present in one per cent of the cases.[2]

In urologic practice we are often called upon to help identify cases of persistent fever. These cases should all be checked for brucellosis. Recently, I was called to see a case of persistent fever. Here a few pus cells in the urine directed attention to the urinary tract. Examination revealed a normal upper tract. A prostatitis accounted for the lower-tract infection. The agglutination test for brucellosis was strongly positive. The temperature returned to normal, and all of the symptoms cleared after the administration of a vaccine obtained from the Hooper Foundation.

MEDIOLATERAL EPISIOTOMY*

By GEORGE D. HUFF, M.D.
San Diego

DISCUSSION *by A. M. McCausland, M. D., Los Angeles; Hall G. Holder, M. D., San Diego; Donald G. Tollefson, M. D., Los Angeles.*

AN episiotomy is the substitution of a clean, straight, carefully made cut in a known and safe place for jagged, irregular tears in unsafe and unknown places. This operation is now the most neglected obstetrical procedure. It should be used in 97 per cent of full-term primipara. The operation should be performed after the pelvic floor has been moderately stretched by the presenting part, but before damage has occurred.

TECHNIQUE

The mediolateral is used exclusively in this series. The incision is made with a sharp scalpel following the injection of one-half per cent novocain. The needle is inserted in the median raphe at the vaginal entrance and carried mediolaterally immediately under the skin for a distance of three inches. Ten cubic centimeters of novocain are injected in this area. The needle point is now drawn back to the median raphe and carried in again at the same angle, and for the same distance; but just above the urogenital septum and levator ani muscle.

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1 Presti and Seminerio: Rinasc. med., 11:621-623 (Oct. 31), 1934. Benincasa: Rinasc. med. 14:260-263 (April 30), 1937. Farjot and Dumond: Soc. de méd. mil. Franc., Bull. mens. 29:290-293 (Nov.), 1935. Garcia and Ruiz: Policlinico, 42: 1912-1921 (Sept. 30), 1935.

2 Harris: J. A. M. A., 109:1300 (Oct. 16), 1937.

* Read before the Obstetrics and Gynecology Section of the California Medical Association at the sixty-sixth annual session, Del Monte, May 2-6, 1937.

Fifteen cubic centimeters of novocain are required for this area. Three minutes should elapse before the incision is made, to allow the novocain to spread through the tissues to be anesthetized. With the first finger of the left hand in the vagina, pulling the pelvic floor toward the operator, it is easy to locate, with the aid of the thumb, the thin round edge of the urogenital septum, and the thicker and deeper edge of the levator ani muscle. The operator now knows the tissues to be severed, their exact location, their thickness and the depth of the incision to be made in each structure. The finger remains in the vagina until the operation has been completed. The incision is started in the median raphe at the vaginal opening, carried mediolaterally and through skin and subcutaneous tissue, exposing the urogenital septum. The urogenital septum, after being identified, is severed by the second stroke of the knife. The levator muscle and fascia cannot be seen and are incised in a similar manner. The outward pressure of the finger in the vagina will cause the cut edges of the severed tissues to separate, and at the same time the pressure will control bleeding. Finally, the incision is made along the vaginal floor for a distance of about two inches. Bleeding vessels should be clamped and tied as in any other operation. The dissection is now complete.

INFECTION

After the baby has been delivered, it is of the greatest importance to redrape the field of operation. Direct infection from the rectum must be avoided. Great care must be exercised to prevent the ends of the sutures from touching the rectum, or some contaminated area. Gloves should be changed before starting the repair.

REPAIR

The skin, subcutaneous tissue, urogenital septum, levator fascia, levator ani muscle, and the vaginal floor must be clearly recognized. The incision was started in the skin and carried inward, layer by layer, toward the vaginal floor. The repair is started in the vaginal floor and carried outward, layer by layer, until the skin has been closed. The incision is held open by a Gelpi retractor. Chromic catgut No. 2 is used exclusively. The apex of the vaginal floor incision is picked up with an Allis clamp. The suture is inserted and tied around the clamp to prevent bleeding from the angle. The suture is then carried, in a continuous manner, down to the mucocutaneous junction at the opening of the vagina. The rounded edges of the urogenital septum on each side of the incision are grasped by Allis clamps and pulled well up toward the symphysis, bringing all the severed structures into view. The first step in closing the urogenital septum and levator ani muscle is to place a suture just to one side of the deepest point of the incision in these structures, and be sure the suture passes through both layers of the urogenital septum, the levator fascia, and levator ani muscle. The suture must be passed through the same structures on the opposite side of the incision but, of course, in the reverse order. It is important not to allow this first deep suture to pass through the rectal wall, but to make sure it passes through both layers of the septum, levator ani fascia, and muscle on both sides of the incision. The Gelpi retractor is partly released and this suture is tied. Similar interrupted sutures are placed three-fourths of an inch apart, until the upper edges of the urogenital septum have been brought firmly together. The subcutaneous tissue is closed with a continuous suture. The skin is closed with a continuous subcuticular stitch, starting at the apex of the skin incision and ending at the mucocutaneous junction. This suture is tied to the one closing the vaginal floor, which leaves no sutures or knots exposed near the rectum.

RESULTS IN FOUR HUNDRED AND TWELVE PRIMIPARA*

Primipara studied	412
Severe infection, two	0.46%
Mild skin infection, twenty-six	6.3 %
Healed but followed by relaxation, thirteen	3.1 %
Hematoma, one	0.23%
Marked pain, two	0.46%
Satisfactory results	89.5 %
Vaginal dilatation before sexual relation could be resumed	35.0 %

CONCLUSIONS

1. This operation should be respected.
2. Good results can be obtained, and will soon be demanded by patients.
3. The mediolateral is one of choice.
4. A slow, deliberate, painless, and scientific operation can be done under local.
5. Each structure can and should be recognized before cutting.
6. A sharp scalpel should be used.
7. All bleeding should be controlled, as in any other operation.
8. The wound should be watched and treated by the doctor and not by the student nurse.
9. Patients have been pleased with this method.
10. A definite fee should be charged for this operation.

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DISCUSSION

A. M. McCausland, M. D. (3780 Wilshire Boulevard, Los Angeles).—The general use of analgesia today has resulted in increased elective low-forceps deliveries, with a corresponding increase in episiotomies in multiparae as well as in primiparae. In addition to the many other reasons and indications already discussed, may I point out that, if the episiotomy is done early, lacerations in the region of the urethra, clitoris, and vestibular bulbs may usually be prevented. Thus, hemorrhage in these locations, which is often difficult to control, is avoided and, still more important, scarring and adhesions about the clitoris, which frequently result in frigidity. Therefore, episiotomy as a routine procedure is the rule rather than the exception in the practice of modern obstetrics. The gratifying results to both patient and physician have firmly established it in its proper place.

With the increase of surgery in the perineal region, a clear understanding of the anatomy involved is of vital importance. Because of the many structures involved, their intricate relationships, and the confusing terminology, the average physician does not possess the same knowledge of the anatomy of this region that he does of other regions of the body.

* In private practice.

If the perineum is considered as the "inferior abdominal wall" with layers as definite and as important as the layers of the "superior (or anterior) abdominal wall," greatly improved results from surgery in this region are inevitable. A general surgeon would not close the "superior abdominal wall" without first identifying any approximately like structures, and yet, too frequently, a repair of the perineum is done by those who do not possess knowledge of even the essential anatomy of the region.

That faulty closure of the "superior abdominal wall" often results in incisional herniations is generally recognized; but obstetricians frequently fail to realize that faulty closure of the "inferior abdominal wall" almost invariably results in pelvic herniations such as rectoceles, cystoceles, urethroceles, and varying degrees of prolapse.

The layers that must be approximated may be summarized briefly as:

(1) Vaginal mucosa; (2) pelvic diaphragm; (3) urogenital diaphragm; and (4) skin.

When the bulbocavernosus muscles, which lie in the anterior compartment of the urogenital diaphragm, are approximated by the well-known "crown stitch," the result is a vaginal tone similar to that in a nulliparous woman.

The pudendal nerves are the chief source of muscular and cutaneous innervation in the perineum. These nerves readily lend themselves to local block due to their accessibility as they course through Alcock's Canal, which is on a level above the lower margin of the ischial tuberosities. The blocking of these nerves relaxes and anesthetizes the perineum, and is often used in conjunction with the infiltration method as described by Doctor Huff.

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HALL G. HOLDER, M. D. (1107 Medico-Dental Building, San Diego). — Modern obstetrics emphasizes episiotomy after elective low-forceps as proper procedure in primipara, in the best interests of mother and new-born. So widely has this teaching been accepted that it has become the rule rather than the exception. I will not labor this point, as I wish to indicate the value of this paper from a purely gynecological standpoint. The gynecologist sees all too many poorly done episiotomy repairs with associated perineal relaxation and subsequent gynecological sequalae. The statement has been made by older gynecologists that 60 per cent of gynecological surgery was incident to poor obstetrics and birth trauma. Episiotomy and elective low-forceps deliveries in particular were designed to avoid much of the sequelae of former years. Under proper management this is undoubtedly true; so we are indebted to Doctor Huff for his emphasis on episiotomy repair, the weak link in obtaining optimum results.

Episiotomy has been too lightly regarded as a most important operation, in fact, the most important in the conduct of the delivery, considering the future comfort and health of the mother. We, therefore, see many poorly executed and poorly repaired episiotomy incisions resulting in perineal relaxation comparable, or worse, than the results formerly obtained without its use and followed by the usual complications.

From a gynecological standpoint Doctor Huff's paper is timely in pointing very clearly to those employing episiotomy the necessity for accurate technique, if the best results are to be obtained and much subsequent morbidity avoided.

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DONALD G. TOLLEFSON, M. D. (511 South Bonnie Brae Street, Los Angeles).—Doctor Huff's presentation of the technique of mediolateral episiotomy calls our attention to a procedure which has been greatly neglected. It is an operation and should be performed as one.

The use of a scalpel has the advantage of a clean, sharp incision over the jagged irregular separation of tissue produced by a scissors. It allows better delineation of the various layers which permits a more accurate anatomical approximation. The elimination of external, nonabsorbable sutures might be criticized by those who feel that skin separation would be too apt to occur. This will seldom happen if asepsis is maintained and hemostasis is assured. The advantages as enumerated warrant the trial of this very complete, yet practical technique.

REGIONAL ANESTHESIA FOR ORTHOPEDIC OPERATIONS*

By CHARLES F. McCUSKEY, M.D.
Glendale

DISCUSSION *by Alfred Edward Gallant, M. D., Los Angeles; Hugh Jones, M. D., Los Angeles.*

THE routine use of general anesthesia by orthopedic surgeons has been quite universal. This has been due in great part to lack of familiarity with regional technique and failure thereby to obtain complete anesthesia when operations have been attempted with regional block. We have no anesthetic agent or method that assures perfect results in every instance. In many orthopedic procedures regional anesthesia offers the patient greater safety and comfort during and after the operative procedure than can be obtained with any form of general anesthesia.

Three primary factors enter into the successful use of regional anesthesia:

1. Preliminary medication selected to meet the requirements of each case.
2. Potent, freshly made solutions of the anesthetic agent, of proper concentration.
3. Skillful blocking of the operative area.

PRELIMINARY MEDICATION

Preliminary medication plays an important part in the success or failure of any type of anesthesia. In regional anesthesia we try to give sufficient medication to allay nervousness and fear, but not enough to make the patient irresponsible and uncoöperative. To accomplish this the dosage must be selected for each patient. A combination of one of the barbituric acid derivatives and a narcotic will usually prove adequate. In some instances it has seemed advisable to give a hypodermic of morphin about one and a quarter hours prior to the injection, followed in about thirty minutes with a barbiturate. This gives us the advantage of the narcotic effect for the painful injection and allows the full effect of the hypnotic during the operation, when the patient is free from painful stimuli.

SOLUTIONS

Procain is our safest and best regional anesthetic agent. To avoid error and failure to obtain anesthesia due to injection of improper solution, it is advisable to prepare fresh solutions for each case. This is much more satisfactory than depending on novocain solutions prepared by some member of the surgical nursing staff, or by local pharmacists. By using 5 cubic centimeter sterile ampoules of 20 per cent novocain as put out by the larger pharmaceutical houses, this is a simple procedure. One of these ampoules diluted to 50 cubic centimeters with normal saline gives a 2 per cent solution, 100 cubic centimeters, 1 per cent, and 200 cubic centimeters, 0.5 per cent. Approximately

* Read before the Anesthesiology Section of the California Medical Association at the sixty-sixth annual session, Del Monte, May 2–6, 1937.